

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A method of receiving and formatting incoming messages, comprising:

receiving a plurality of incoming messages having market event data from a plurality of data feed lines, the data feed lines providing quote information, market participant information and, timing information;

translating a portion of the received messages into market event messages having a common format defined by a market event object holding quote information, market participant information and timing information, ~~the market event messages including market activity data and time data~~; and

publishing at least one of the translated messages on a network having a plurality of devices capable of processing the published message.

2. (original) The method of claim 1, wherein the incoming messages have a plurality of formats.

3. (cancel)


4. (previously presented) The method of claim 1, wherein the incoming messages comprise any combination of trading quotations, indices, volumes, exchange halts, and trading parties.

5. (original) The method of claim 1, wherein at least a portion of the incoming messages are NQDS messages.

6. (original) The method of claim 1, wherein the incoming messages include market source and newswire messages.

7. (original) The method of claim 1, wherein publishing comprises:
transmitting one of the translated messages to a plurality of the devices via the network.

8. (original) The method of claim 7, wherein publishing includes transmitting an associated sequence number with each market event message, the sequence numbers temporally ordering the incoming messages.

 9. (currently amended) The method of claim 1, wherein translating comprises:
attaching time data to one of the incoming messages; and
converting a plurality of data fields of the one of the incoming messages to the a common format.

10. (original) The method of claim 9, wherein the time data includes a receipt time of the one of the incoming messages and an event time attached to the one of the incoming messages prior to receipt from the feed line.

11. (original) The method of claim 1, further comprising:
serially determining whether the translated messages are valid based on associated sequence numbers, the sequence numbers temporally ordering the incoming messages from each feed line; and
wherein one of the translated messages is published in response to being determined to be valid.

12. (original) The method of claim 11, wherein the one of the translated messages is valid if the associated sequence number is one of higher than sequence numbers of the previously

published messages and located in a gap between sequence numbers of the previously published messages.

13. (cancel)

14. (previously presented) The method of claim 1, further comprising:
monitoring the plurality of feed lines for the incoming messages.

D 15. (original) The method of claim 1, further comprising:
creating a list for sequence numbers of the incoming messages received from the feed
line; and
writing a sequence number to the list for each translated incoming message, the sequence
numbers forming a temporal ordering of the incoming messages.

16. (currently amended) A computer program product for receiving and formatting data
incoming messages, the program residing on a computer readable medium and comprising
instructions to cause a computer to:

receive from a plurality of feed lines a plurality of incoming messages having data on
market events, ~~the feed lines, lines providing quote information, market participant information~~
~~and, timing information;~~

translate the received messages into market event messages having a common format
defined by a market event object holding quote information, market participant information and
timing information, ~~the market event messages including market activity data and time data;~~ and

publish at least one of the translated messages on a network having a plurality of devices
capable of processing the published message.

17. (original) The computer program product of claim 16, wherein the received incoming
messages have a plurality of formats.

18. (original) The product of claim 16, further comprising instructions to cause a computer to:

receive a second plurality of incoming messages having data on one or more market events from a second data feed line;

translate the received second plurality of incoming messages into a second plurality of market event messages having the common format; and

publish at least one of the translated second plurality of messages on the network.

19. (previously presented) The product of claim 16, wherein the incoming messages comprise any combination of trading quotations, indices, volumes, exchange halts, and trading parties.

20. (original) The product of claim 16, wherein at least a portion of the incoming messages are NQDS messages.

21. (original) The product of claim 16, wherein the incoming messages include market source and newswire messages.

22. (original) The product of claim 16, wherein the instructions to publish cause the computer to:

transmit one of the translated messages to a plurality of parallel processing devices via the network.

23. (original) The product of claim 16, wherein the instructions to translate cause the computer to:

attach time data to the incoming messages, the time data including a stamp for a receipt time of the associated incoming message and an event time for the prior to the receipt of the associated incoming message from the feed line; and

convert a plurality of data fields of the incoming message to a common format.

24. (original) The product of claim 16, the program further comprising instructions to cause the computer to:

serially determine whether the translated messages are valid based on associated sequence numbers, the sequence numbers temporally ordering the incoming messages from the feed line; and

wherein one of the translated messages is published in response to being determined to be valid.

25. (original) The product of claim 24, wherein the one of the translated messages is valid if the associated sequence number is one of higher than sequence numbers of the previously published messages and located in a gap between sequence numbers of the previously published messages.

26. (original) The product of claim 24, wherein the instructions to determine whether the translated messages are valid cause the computer to:

update a list of gaps between sequence numbers of previously published messages.

27. (original) The product of claim 16, the program further comprising instructions to cause the computer to:

create a list for sequence numbers of the incoming messages received from the feed line; and

write a sequence number to the list for each translated received incoming message, the sequence numbers forming a temporal ordering of the incoming messages.

28. (currently amended) A system to receive and format incoming messages received from a plurality of data feed lines, comprising:

a network; and

a plurality of line handlers having a server coupled to both a data feed line and to the network, the servers being configured to:

receive a plurality of incoming messages for market events from the data feed lines coupled thereto, ~~the feed lines, lines providing quote information, market participant information and, timing information;~~

translate the received incoming messages into market event messages having a common format defined by a market event object holding quote information, market participant information and timing information; and

publish a portion of the translated messages on the network ; and

wherein the market event messages from each server have the same format.

29. (original) The system of claim 28, wherein the incoming messages have a plurality of formats.

30. (previously presented) The system of claim 28, wherein the incoming messages comprise any combination of trading quotations, indices, volumes, exchange halts, and trading parties.

31. (original) The system of claim 28, wherein at least a portion of the incoming messages are NQDS messages.

32. (original) The system of claim 28,
wherein each line handler is configured to send each market event message to a plurality of available processors via the network.

33. (previously presented) The system of claim 28, wherein each server is configured with a software program to cause the computer to:

- receive the incoming messages;
- translate the received incoming messages; and
- publish a portion of the translated messages on the network.

34. (previously presented) The system of claim 33, wherein the program includes an receiver object to receive incoming messages, a translating object to translate the incoming messages, and a publishing object to publish translated messages.

35. (original) The system of claim 33, wherein the program further includes a sequence number object to serially determine whether the translated messages are valid based on associated sequence numbers, the sequence numbers temporally ordering the incoming messages from each feed line; and

wherein one of the translated messages is published in response to being determined to be valid.

36. (previously presented) The system of claim 30, wherein each server executes an NT software program and the network operates according to an NT compatible protocol.

37. (original) The system of claim 30, further comprising an operations server coupled to the network and configured to track the health and performance of the line handlers.

38. (currently amended) A method of processing Nasdaq Quote Data Service (NQDS) messages comprising:

receiving a NQDS message in a receiver object from one of a plurality of monitored feed lines;

activating a timing object to attach timing data to the NQDS message; and

activating a translator object to translate the NQDS message into a common format defined by a market event object holding quote information, market participant information and timing information.

39. (previously presented) The method of claim 38 in which the timing data comprises; an NQDS time extracted from the NQDS message; and a stamp for a receipt time at the receiver object.

40. (previously presented) The method of claim 39 in which the timing data further comprises a message delta obtained by comparing a time of the NQDS message with times of previously received NQDS message from the one of the plurality of monitored feed lines.

41. (previously presented) The method of claim 38 in which the common format is a market event object format.

42. (previously presented) The method of claim 41 in which the market event object format comprises:

a time stamp field;
a message time field;
a market session data field;
a line field;
a feed field;
a feed sequence number field;
a message type field; and
an original identification field.

43. (currently amended) A computer readable medium storing a data structure for providing a common format for a market event message, the data structure comprising;

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- a time stamp field;
- a message time field;
- a market session data field;
- a line field;
- a feed field;
- a feed sequence number field;
- a message type field; and

an original identification field.
